What is Claimed is:

1. A system for wirelessly projecting power to wirelessly power microelectronic devices, the system comprising:

an array of in-phase current loops that are disposed adjacent to one another to define a surface and to define a virtual current loop at a periphery of the surface that produces a same direction virtual current while current in adjacent portions of adjacent current loops flows in opposite directions, to thereby wirelessly project power from the surface.

2. A system according to Claim 1 wherein the array of in-phase current loops comprises an array of at least two wedge-shaped current loops, each having an outer portion and a pair of sides, the at least two wedge-shaped current loops being disposed adjacent to one another to define a surface such that currents in the outer portions are in-phase and current in adjacent sides of adjacent current loops are out-of-phase.

3. A system according to Claim 1 wherein the array of in-phase current loops comprises an array of at least two polygonal current loops, each having a plurality of sides, the at least two polygonal current loops being disposed adjacent to one another to define a surface, such that currents in the sides of the at least two polygonal loops that are adjacent the periphery of the surface are in-phase and current in adjacent sides of adjacent current loops are out-of-phase.

4. A system according to Claim 1 wherein the array of in-phase current loops comprises an array of spiral current loops.

5. A system according to Claim 1 wherein each of the in-phase current loops is less than a quarter wavelength long.

6. A system according to Claim 1 wherein the array of in-phase current loops comprises an array of concentric current loops.

7. A system according to Claim 1 wherein the array of in-phase current loops comprises an array of stacked current loops.

8. A system according to Claim 1 further comprising a driver that drives the array of current loops at 13.56 MHz to thereby wirelessly project power.

9. A system according to Claim 1 wherein the array of in-phase current loops is arranged to provide at least some reinforcement of an electromagnetic near field that is produced by the current loops while producing at least some cancellation of a far field electromagnetic wave that is produced by the current loops.

10. A system for wirelessly projecting power to wirelessly power microelectronic devices, the system comprising:

a plurality of arrays of in-phase current loops, the arrays of in-phase current loops being disposed adjacent to one another to define a surface, each array of in-phase current loops defining a virtual current such that virtual currents of at least some adjacent arrays of in-phase current loops are not in-phase with one another, each array of in-phase current loops comprising a plurality of in-phase current loops that are disposed adjacent to one another in the surface, such that current in adjacent portions of adjacent current loops in an array flows in opposite directions

11. A system according to Claim 10 wherein the virtual currents of adjacent arrays of in-phase current loops are of opposite phase from one another.

12. A system according to Claim 10 wherein the plurality of arrays of in-phase current loops comprises four arrays of current loops that are arranged in two rows and two columns, such that the virtual currents in the arrays in each row and each column are of opposite phase.

13. A system according to Claim 10 wherein the plurality of arrays of in-phase current loops comprises four arrays of current loops that are arranged in two rows and two columns, such that the virtual currents in the arrays in each row and each column are ninety degrees out-of-phase from one another.

14. A system according to Claim 12 wherein the two rows and two columns are two oblique rows and two oblique columns.

15. A system according to Claim 13 wherein the two rows and two columns are two oblique rows and two oblique columns.

16. A system according to Claim 10 wherein the plurality of arrays of in-phase current loops comprises a plurality of arrays of current loops that are arranged in a circle, such that the virtual currents in adjacent arrays in the circle are of opposite phase.

17. A system according to Claim 10 wherein each array of in-phase loops is arranged to provide at least some reinforcement of an electromagnetic near field that is produced by the current loops in an array while producing at least some cancellation of a far field electromagnetic wave that is produced by the current loops in the array.

18. A system according to Claim 17 wherein the plurality of arrays of in-phase current loops are arranged provide at least some further reinforcement of the electromagnetic near fields that are produced by the arrays of in-phase current loops and at least some further cancellation of the far field electromagnetic waves that are produced by the arrays of in-phase current loops.

19. A system according to Claim 10 wherein each array of in-phase current loops comprises an array of at least two wedge-shaped current loops, each having an outer portion and a pair of sides, the at least two wedge-shaped current loops being disposed adjacent to one another to define a surface such that currents in the outer portions are in-phase and current in adjacent sides of adjacent current loops are out-of-phase.

20. A system according to Claim 10 wherein each array of in-phase current loops comprises an array of at least two polygonal current loops, each having a plurality of sides, the at least two polygonal current loops being disposed adjacent to one another to define a surface having an outer boundary, such that currents in the

sides of the at least three polygonal loops that are adjacent the outer boundary are in-phase and current in adjacent sides of adjacent current loops are out-of-phase.

21. A system according to Claim 10 wherein each array of in-phase current loops comprises an array of spiral current loops.

22. A system according to Claim 10 wherein each of the in-phase current loops is less than a quarter wavelength long.

23. A system according to Claim 10 wherein each array of in-phase current loops comprises an array of concentric current loops.

24. A system according to Claim 10 wherein each array of in-phase current loops comprises an array of stacked current loops.

25. A system according to Claim 10 further comprising a driver that drives each array of current loops at 13.56 MHz to thereby wirelessly project power.

26. A method for wirelessly projecting power to wirelessly power microelectronic devices, the method comprising the step of:

applying current to an array of in-phase current loops that are disposed adjacent to one another to define a surface and to define a virtual current loop at a periphery of the surface that produces a same direction virtual current while current in adjacent portions of adjacent current loops flows in opposite directions, to thereby wirelessly project power from the surface.

27. A method for wirelessly projecting power to wirelessly power microelectronic devices, the method comprising the step of:

applying current to a plurality of arrays of in-phase current loops, the arrays of in-phase current loops being disposed adjacent to one another to define a surface, each array of in-phase current loops defining a virtual current such that virtual currents of at least some adjacent arrays of in-phase current loops are out-of-phase with one another, each array of in-phase current loops comprising a plurality of in-phase

current loops that are disposed adjacent to one another in the surface, such that current in adjacent portions of adjacent current loops in an array flows in opposite directions.

28. A method of identifying a plurality of radio-frequency identification tags that are simultaneously interrogated on a single communication channel, each identification tag comprising at least four identification bits, the method comprising the steps of:

simultaneously interrogating at least two identification bits in each of the identification tags to obtain a predetermined response from each of the identification tags having a predetermined bit value for each of the at least two identification bits; and

serially interrogating the identification tags having a predetermined bit value for the at least two identification bits to obtain at least two additional identification bits from each of the identification tags having a predetermined bit value for the at least two identification bits.

29. A method of identifying a plurality of radio-frequency identification tags that are simultaneously interrogated on a single communication channel, each identification tag comprising a plurality of identification bits, the method comprising the steps of:

defining a tree of identification bits, the tree comprising a plurality of nodes at a plurality of levels that define differing values for subsets of the plurality of identification bits;

simultaneously interrogating a first subset of the plurality of identification bits in the identification tags that correspond to a first node at a first level of the tree to obtain a predetermined response from the identification tags that correspond to the first node at the first level of the tree; then

if at least one tag in the first subset responds, descending the tree by simultaneously interrogating a second subset of the plurality of identification bits in the identification tags that correspond to a second node at a second level of the tree to obtain a predetermined response from the identification tags that correspond to the second node at the second level of the tree; then

ascending the tree back to the first node at the first level; and then

descending the tree from the first node at the first level by simultaneously interrogating a third subset of the plurality of identification bits in the identification tags that correspond to a third node at the second level of the tree to obtain a predetermined response from the identification tags that correspond to the third node at the second level of the tree.

30. A system for identifying a plurality of radio-frequency identification tags that are simultaneously interrogated on a single communication channel, each identification tag comprising at least four identification bits, the system comprising:

means for simultaneously interrogating at least two identification bits in each of the identification tags to obtain a predetermined response from each of the identification tags having a predetermined bit value for each of the at least two identification bits; and

means for serially interrogating the identification tags having a predetermined bit value for the at least two identification bits to obtain at least two additional identification bits from each of the identification tags having a predetermined bit value for the at least two identification bits.

31. A system for identifying a plurality of radio-frequency identification tags that are simultaneously interrogated on a single communication channel, each identification tag comprising a plurality of identification bits, the system comprising:

means for defining a tree of identification bits, the tree comprising a plurality of nodes at a plurality of levels that define differing values for subsets of the plurality of identification bits;

means for simultaneously interrogating a first subset of the plurality of identification bits in the identification tags that correspond to a first node at a first level of the tree to obtain a predetermined response from the identification tags that correspond to the first node at the first level of the tree; then

means for descending the tree by simultaneously interrogating a second subset of the plurality of identification bits in the identification tags that correspond to a second node at a second level of the tree to obtain a predetermined response from the identification tags that correspond to the second node at the second level of the tree if at least one tag in the first subset responds;

means for ascending the tree back to the first node at the first level; and

means for descending the tree from the first node at the first level by simultaneously interrogating a third subset of the plurality of identification bits in the identification tags that correspond to a third node at the second level of the tree to obtain a predetermined response from the identification tags that correspond to the third node at the second level of the tree.